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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,708	02/05/2001	Richard D. Cramer	3017-54	5704

7590 08/17/2004

LAURENCE A. WEINBERGER  
ATTORNEY AT LAW  
882 S. MATLACK ST.  
P.O. BOX 1663  
WEST CHESTER, PA 19380-0053

EXAMINER

ZEMAN, MARY K

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/776,708

Applicant(s)

CRAMER ET AL.

Examiner

Mary K Zeman

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,7,8 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,7,8,14 and 15 is/are allowed.
- 6) ☒ Claim(s) 3,4 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Claims 1, 3, 4, 7, 8 and 11-15 are pending in this application. Claims 11-15 are newly added.

As per Rule 1.121, newly added claims must not contain bracketing or underlining of text. Newly submitted claims 13-15 contain underlined text. This appears to be a formatting error from a word processing function. For clarification of the changes in Amendment practice, Applicant is referred to: *Changes to Implement Electronic Maintenance of Official Patent Application Records, 68 Fed Reg 38611 (June 30, 2003), 1272 Off Gaz Pat Office 197 (July 29, 2003 (final rule)*. The claims will be examined herein.

Applicant's arguments filed 6/2/04 have been fully considered but they are not persuasive. Any rejections not repeated below have been withdrawn.

### *Claim Objections*

Claim 12 is objected to because of the following informalities: Claim 12 recites "which can assume any conformations" at lines 2-3. It would appear this should read "which can assume [[amy]] many conformations..." or could read "which can assume any [[amy]]conformation[[s]]..." Appropriate correction is required.

### *Rejections maintained*

Claims 1, 3, 4, 7, 8 and 11-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-7 of U.S. Patent No. 6,185,506. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims as added and/or amended now recite the same steps to the same ends, even though the wording is slightly different. For example, Claim 1 of the application requires the generation of topomeric alignment rules, and their application to reactants to generate 3D structures. Claim 4 of the patent topomerically aligns the reactants- which is the same as generating the rules and applying them to reactants. Further dependent claims require the determination of COMFA fields, and

Art Unit: 1631

hydrogen bonding fields in both the application and the patent. As such they are claiming the same methods..

The examiner acknowledges Applicant's intention to address this rejection at a later time. As certain claims are being designated as allowable except for this issue, this issue should be addressed in the response to this action.

Claims 3 and 4 remain rejected *and claims 12 and 13 are newly rejected* under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. To the extent this rejection is newly applied, it is applied to newly added claims.

Claims 3, 4, 12 and 13 are drawn to computer implemented methods of characterizing a three dimensional structure. The steps of the method result in "generating the CoMFA steric fields for each aligned molecular side chain." The generated CoMFA steric field is not a concrete, tangible and useful result according to MPEP 2106. This steric field is a piece of data which must further be interpreted and manipulated by the end user. According to the specification at page 36, CoMFA steric fields are a description of the differences between structures aligned by "overlaying the atoms that lie within some selected common substructure and arranging the other atoms according to a unique canonical rule with any resulting steric collisions ignored." The specification continues in that these differences are further used *as part of a process* to select molecules from a set that are either similar or dissimilar. The CoMFA steric field value by itself does not appear to have specific meaning or usefulness. The step of selecting similar or dissimilar entities based on this value is not present in the rejected claims. Pages 42-43 of the specification discuss the computation of the CoMFA steric field value. It is a numeric value which represents a difference of atom positioning of a "reactant" in comparison to an "alignment template." This numeric value on its own has no intrinsic meaning. It must be further compared with or applied to other values to provide a meaningful result. (See for example Table 1, and corresponding explanations- the meaningful values of the table are *ratios* and *comparisons* of CoMFA values across a data set, not for a single value.)

Art Unit: 1631

The addition of the hydrogen bonding fields in claims 4 and 13 does not result in the computation of a concrete tangible and useful result. Hydrogen bonding fields are described in the specification at page 44 as a 'bitset, 2D fingerprint or as an array of 0 or 1 values rather than as an array of real numbers like a CoMFA field.' This data by itself has no intrinsic meaning, and must be further interpreted and manipulated to be useful.

### *New Grounds of Rejection*

#### *Claim Rejections - 35 USC § 112*

Claims 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The metes and bounds of claim 11 are unclear. At line 3, the phrase "enabling comparison between the side chains of shape related properties" is unclear. How does a shape related property have a side chain? It would appear this was meant to read "enabling a comparison between the shape related properties of the side chains..."

### *Conclusion*

Claims 1, 7, 8, 14 and 15 remain rejected only under obviousness type double patenting and otherwise appear allowable.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

Art Unit: 1631

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

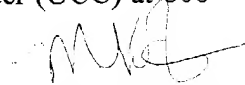
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary K Zeman whose telephone number is (571) 272 0723

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P Woodward can be reached on (571) 272 0722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

  
MARY K. ZEMAN  
PRIMARY EXAMINER  
